

## March 2002



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**TRANSPORTATION CONCEPT SUMMARY**  
**STATE ROUTE 54 (SR-54)**  
**11-SD-54**  
**P.M. 0.0-T14.2**

**Existing Facility**

Table S-1 shows the existing facility and operating conditions for SR-54 in San Diego County. The five-day Average Daily Traffic (ADT) is based on 2000 data.

**TABLE S-1**  
**EXISTING FACILITY AND OPERATING CONDITIONS**

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS
1) SD 0.0-1.9	I-5 TO I-805	6F	106,400	0.95	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	4F + 2HOV	78,100	0.71	D
3) SD T5.0-7.7	Briarwood Road to East junction SR-125	4 lane traversable route *			
4) SD 7.7-T11.0	East junction SR-125 to SR- 94/Campo Road	4 lane traversable route *			
5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	4C traversable route	30,700	.55	C

\* Existing traversable route using local roads (South Bay Parkway and Jamacha Boulevard)

ADT = Average Daily Traffic

V/C = Volume to Capacity

LOS = Level of Service

4F/6F = 4/6 lane freeway

4C = 4 Lane Conventional Facility

## 2020 Transportation Concept

Table S-2 shows the 2020 Transportation Concept for SR-54. The five day Average Daily traffic is based on the San Diego Association of Government 2020 Cities/Counties Forecast Smart Growth Preferred Plan (Fall 2000).

**TABLE S-2**  
**2020 TRANSPORTATION CONCEPT**

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS*
1) SD 0.0-1.9	I-5 TO I-805	6F + 2HOV	120,100	0.77	C	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	6F + 2HOV	142,700	0.86	D	E
3) SD T5.0-7.7	Briarwood Road to East Jct SR-125	6F + 2HOV	139,500	0.85	D	E
4) SD 7.7-T11.0	East Jct. SR-125 to SR-94/Campo Road	4E**	28,000	0.61	C	E
5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	4C/6C**	37,000***	0.74	D	E

ADT = Average Daily Traffic

V/C = Volume to Capacity

LOS = Level of Service

2C, 4C, 6C = (2,4,6) Lane Conventional Facility

\* Concept LOS is based on the SANDAG Congestion Management Program (CMP) standard.

\*\* The San Diego Association of Governments (SANDAG) is expected to complete the Route 54 Corridor Study after the County of San Diego adopts an updated land use plan. The study will determine corridor location, facility type, and number of lanes.

\*\*\* Does not include projected ADT on any potential new alignment

NOTE: ADTs were derived from SANDAG's 2020 Cities/Counties Forecast Smart Growth Preferred Plan. Peak hour V/C Ratios and Peak Hour Operating LOS are only intended as a general planning guideline. Results may differ based on usage of other traffic analysis methodologies.

Additional improvements such as transit, non-motorized, park and ride, transportation demand management, transportation system management, and capacity enhancements should also be developed either as part of the 2020 Transportation Concept where appropriate or the Post-2020 Ultimate Transportation Corridor. These improvements have the potential to improve level of service.

## 2020 Transportation Concept Facility Improvements

Table S-3 shows improvements to SR-54 that are part of the 2020 Transportation Concept. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed facility improvements.

**TABLE S-3**  
**2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS**

<b>Segment/ County/ Post Mile</b>	<b>Location</b>	<b>Improvement Description</b>	<b>Peak Hour V/C Ratio</b>	<b>Peak Hour Operating LOS</b>	<b>Concept LOS</b>
1) SD 0.0 – 1.9	I-5 to I-805	Add 2HOV	0.77	C	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	Upgrade from 4F + 2HOV To 6F + 2HOV	0.86	D	E
3) SD T5.0-7.7	Briarwood Road to East Jct SR-125	Construct 6F + 2HOV	0.85	D	E
4) SD 7.7-T11.0	East Jct. SR-125 to SR- 94/Campo Road	Construct 4E	0.61	C	E
5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	Widen from 4C to 6C(SR-94 to Brabham) and/or highway on new alignment*	0.74	D	E

\* Improvement description subject to refinement pending results of SANDAG Route 54 Corridor Study

**TRANSPORTATION CONCEPT REPORT  
STATE ROUTE 54 (SR-54)  
11- SD-54  
P.M. 0.0-T14.2**

**INTRODUCTION AND STATEMENT OF PLANNING INTENT**

This Transportation Concept Report (TCR) is a planning document, which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, this TCR establishes a 20-year transportation planning concept for State Route 54 (SR-54) and identifies modal transportation options needed to achieve the concept. The concept considers operating Levels of Service (LOS), modal improvements, and new technologies. The TCR also considers potential long-term needs for the corridor beyond the 20-year planning period.

The TCR is a preliminary planning phase document leading to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the Project Study Report, Project Report, and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the entire 20-year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

**Route Description**

State Route (SR) 54 is a partially constructed route in southwestern San Diego County. The western terminus is Interstate (I) 5 in National City. The route extends northeast for 14.2 miles to its eastern terminus at the El Cajon south city limit near Grove Road.

Legislative Route 54 (formerly Legislative Route 280) was created as part of the California Freeway and Expressway System in 1959. Route adoptions making SR-54 an adopted freeway from I-5 to I-8 were completed in 1965. A traversable routing in El Cajon was adopted by the Highway Commission in 1968. Beginning at SR-94, this routing goes north on Jamacha Road. The former portion of SR-54

from the El Cajon south city limit to I-8 was relinquished to the city of El Cajon in November 1999.

Five State highways intersect SR-54 within District 11. They are I-5, I-805, future SR-125, SR-94, and I-8. The three freeways paralleling portions of SR-54 include I-8, SR-94, and I-905.

### **Purpose of Route**

SR-54 is a major east-west facility serving southwestern San Diego County. It is entirely within the urban area. The route primarily serves intraregional traffic, providing access to the communities in the South Bay, Spring Valley, Rancho San Diego, and the cities of Chula Vista, National City and El Cajon. SR-54 forms part of the South Inner and Outer Loops between the South Bay area and the East County, and relieves congestion on I-805, SR-94, and I-8. Additional service as a commuter route is provided to the Rancho San Diego residential development. Recreational travel heading to Mexico, the mountains, and the desert areas can reach I-5, I-805, future SR-125, SR-94, and I-8 by way of SR-54.

### **Existing Facility Classifications**

The functional classification of SR-54 is Other Principal Arterial Freeway or Expressway. From I-5 to Briarwood Road, SR-54 is designated as a California legal route for Tractor-Semitrailer with 65-foot Overall length and 40-foot Kingpin to Rear Axle Length as Defined by the Surface Transportation Assistance Act (STAA). The portion of SR-54 from SR-94 to the El Cajon South city limits is designated as an STAA Terminal Access Route connecting to the National Network.

For maintenance programming purposes, the State Highway system has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions. MSL 1 contains route segments functionally classified as rural Principal Arterials (PA) and their urban extensions (P1P). MSL 2 contains route segments classified as PAs not in MSL 1, route segments functionally classified as minor arterials not in MSL 3, and route segments with a Route Concept of Maintain and Improve. MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments with a Route Concept of Maintain Only, route segments functionally classified as collectors and local roads, route segments with relatively low relinquishment, rescission, or where a new alignment will replace the existing facility. Furthermore, route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation.



SR-54 is classified as Maintenance Service Level (MSL) 2. This definition of MSL 2 is a route segment classified as an Other Freeway/Expressway or Other Principal Arterial not in MSL 1, and route segments functionally classified as minor arterial not in MSL 3.

SR-54, however, is not a part of the following systems: National Highway System (NHS), LifeLine Routes for Earthquake Emergency Response, Intermodal Corridors of Economic Significance (ICES), Interregional Road System (IRRS), or Blue Star Memorial Highways.

## Route Segments

Table 1 lists the segments, post-miles, locations, number of lanes and facility type, and whether the segments are in an urban or rural area.

**TABLE 1  
ROUTE SEGMENTATION**

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS
1) SD 0.0-1.9	I-5 TO I-805	6F	106,400	0.95	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	4F + 2HOV	78,100	0.71	D
3) SD T5.0-7.7	Briarwood Road to East Jct SR-125	4 lane traversable route			
4) SD 7.7-T11.0	East Jct. SR-125 to SR- 94/Campo Road	4 lane traversable route			
5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	4C traversable route	30,700	.55	C

\* Existing traversable route using local roads (South Bay Parkway and Jamacha Boulevard)

U = Urban

2C, 4C, 6C = (2, 4, 6) lane conventional facility

## Existing Facility

SR-54 is a mix of different facility types. From I-5 to I-805 it consists of a six lane freeway with the existing South Bay Light Rail Transit (LRT) Line crossing near I-5. From I-805 to Briarwood Road, SR-54 is a four-lane freeway with two high occupancy vehicle lanes. From Briarwood Road to SR-125, SR-54 is an unconstructed State highway. Traffic utilizes the South Bay Parkway as a traversable route. From SR-125 to SR-94, SR-54 is an unconstructed State highway. Traffic uses Jamacha Boulevard as a traversable route. The portion of SR-54 from SR-94 to the terminus of the route at the El Cajon south City Limit near Grove Road is a mostly four lane conventional highway.

A physical description of the existing facility geometrics in a segment-specific format is shown in Table 2.

**TABLE 2  
EXISTING FACILITY GEOMETRICS**

Segment/ Post Mile	# Lanes & Facility Width	Outside Shoulder Width	Inside Shoulder Width	Maximum R/W Width	Median Width	Grade Line
1) 0.0-1.9	6F @ 3.0-3.7 (10-12)	1.5-3.0 (5-10)	0.6-3.0 (2-10)	122 (400)	16.5-<30.5 (54-<100)	F
2) 1.9 -T5.0	4F +2HOV @ 3.0 (10)	3.0 (10)	3.0 (10)	61 (200)	16.5-28.7 (54-94)	F
3) T5.0-7.7	4 lane traversable route					
4) 7.7-T11.0	4 lane traversable route					
5) T11.0-T14.2	4C @ 3.7 (12)	2.4 (8)	0	36.6 (120)	4.3 (14)	F

**Note: Widths are in meters (parenthesis widths are in feet)**

Grade Line Designations:

F = Flat

2C, 4C, 6C = (2, 4, 6) lane conventional facility

R/W = Right of Way

Much of the SR-54 corridors lacks adequate and efficient parallel arterials, however, there are some arterial streets paralleling SR-54 that could provide an alternative to commuters wishing to avoid peak hour congestion on the freeway. Listed in Table 3 are the major arterial streets that parallel SR-54 throughout the route. Currently, these streets fail to provide an effective alternative due to physical inadequacies, numerous traffic signals, access conflicts, and general traffic congestion. Improvements will be required in order to provide efficient alternative for commuters.

Table 3 is a list of selected arterial surface streets that either parallel or cross SR-54.

**TABLE 3  
SELECTED ARTERIAL STREETS**

<u>Segment</u>	<u>Arterial Name</u>	<u>Description</u>
1 - 2	E Street/Bonita Road/San Miguel Road	I-5 to future SR-125
1 - 2	H Street/East H Street	I-5 to future SR-125
1 - 2	30th Street/Sweetwater Road	National City Boulevard to Paradise Valley Road
1 - 6	Plaza Boulevard/Paradise Valley Road/ Jamacha Boulevard/Jamacha Road	I-5 to I-8
3-4	SR-125 Toll Road	SR-905 to SR-54
4 - 6	Avocado Boulevard	SR-94 to Main Street

Park and ride facilities encourage and support the use of commuter or express transit and car/vanpooling for a portion of longer vehicle trips and consequently reduce Vehicle Miles of Travel (VMT) within the San Diego region. Currently, four

lots exist along the SR 54 corridor. Lot 9, Location Interstate 805 at Sweetwater Road. Lot 40 Location, Jamacha Boulevard east of Sweetwater Road. Lot 71 Location, Sweetwater Village, Sweetwater Springs Boulevard and Austin Drive. Lot 25, Location, Washington Avenue near Jamacha Road (Bike lockers and transit service available).

A two way bike path parallels SR-54 on the east side from Sweetwater Road east to National City Boulevard. Bicycle travel is allowable on all non-freeway portions of SR-54.

Four San Diego Transit bus routes use SR-54, including bus numbers 853, 855, 856, and 858. Route 853 runs from Spring Street station to Rancho San Diego. The operational hours are 5:22 A.M.-6:50 P.M., With headways every 45 minutes. Route 855 runs from Grossmont Center to Rancho San Diego; the hours of operation are 5:22 A.M.-10:59 P.M. This bus runs every half hour in the morning and every hour in the afternoon and night. Route 856 runs from Market place at the Grove to Cuyamaca College; the hours of operation are 4:30 A.M.-11:10 P.M. This bus runs every half hour in the morning and every hour in the afternoon. Route 858 runs between Grossmont College and Cuyamaca College; the hours of operations are 4:30 A.M. to 10:58 P.M. This bus runs every half-hour in the morning and every hour in the afternoon.

Eastbound and westbound ramp meters are installed at Reo Drive, Woodman Street, and Briarwood Road.

## **SOCIO-ECONOMICS**

This section includes a land use/corridor growth and demographic analysis for existing and future conditions in this corridor.

### **Corridor Growth and Demographics**

The SANDAG Series 9 Regional Population and Employment Forecast anticipates a population growth change in the San Diego Region from 2.66 million people in 1995 to 3.85 million people in 2020. This represents a 44.4 percent increase in population. Series 9 also projects the Housing Stock in the San Diego Region will increase from 996,684 units in 1995 to 1.4 million units in 2020, a 40.9 percent change. The Total Labor Force is also expected to grow from 1.19 million workers in 1995 to 1.7 million workers in 2020 for an increase of 45.1 percent. These growth changes will create a demand for additional public facilities. Complementary land use and transportation improvements will be required to accommodate forecasted growth, and to provide the additional public facilities.

Table 4 shows current population, a 2020 projected population estimate, and the resultant growth rate for the area that SR-54 traverses within San Diego County.

**TABLE 4**  
**Jurisdictional Population Growth**

<u>Jurisdiction</u>	<u>1995</u>	<u>2020</u>	<u>Percent Change</u>
San Diego County	2,669,200	3,853,297	44%
City of San Diego	1,174,422	1,693,533	44%
Chula Vista	151,093	275,455	82%
El Cajon	91,464	104,563	14%
National City	54,120	58,977	9%

Source: SANDAG 2020 Cities/County Forecast Profiles (April 2000)

Table 5 lists current and future housing, employment and population data for the City of San Diego and San Diego County.

**TABLE 5**  
**POPULATION, HOUSING AND EMPLOYMENT GROWTH, SAN DIEGO COUNTY JURISDICTIONS**

<b>Location</b>	<b>Year</b>	<b>Total Population</b>	<b>% Change from Base Year</b>	<b>Total Housing Units</b>	<b>% Change from Base Year</b>	<b>Total Employment</b>	<b>% Change from Base Year</b>
San Diego	1995	1,174,422	N/A	453,515	N/A	645,159	N/A
	2005	1,403,874	19.5	518,784	14.4	780,148	20.9
	2010	1,499,437	27.7	559,327	23.3	801,216	24.2
	2020	1,693,533	44.2	631,237	39.2	869,977	34.8
Chula Vista	1995	151,093	N/A	53,961	N/A	45,996	N/A
	2005	208,107	37.7	70,928	31.4	67,643	47.0
	2010	233,313	54.3	80,775	49.6	73,200	59.1
	2020	275,455	82.1	96,518	78.8	87,533	90.3
El Cajon	1995	91,464	N/A	34,703	N/A	39,810	N/A
	2005	99,337	8.6	36,043	3.8	46,397	16.5
	2010	101,964	11.4	37,336	7.4	47,650	19.5
	2020	104,563	14.3	38,534	10.9	50,908	27.8
National City	1995	54,120	N/A	15,443	N/A	26,462	N/A
	2005	57,949	7.0	15,983	3.2	29,974	12.8
	2010	58,580	8.1	16,330	5.8	30,666	15.8
	2020	58,977	8.8	16,548	7.1	32,674	23.3
<b>San Diego Region</b>	<b>1995</b>	<b>2,669,200</b>	<b>N/A</b>	<b>996,684</b>	<b>N/A</b>	<b>1,186,837</b>	<b>N/A</b>
	<b>2005</b>	<b>3,223,474</b>	<b>20.8</b>	<b>1,153,736</b>	<b>15.8</b>	<b>1,513,234</b>	<b>27.5</b>
	<b>2010</b>	<b>3,437,697</b>	<b>28.8</b>	<b>1,245,057</b>	<b>24.9</b>	<b>1,565,824</b>	<b>31.9</b>
	<b>2020</b>	<b>3,853,297</b>	<b>44.4</b>	<b>1,404,231</b>	<b>40.9</b>	<b>1,721,651</b>	<b>45.1</b>

Source: SANDAG 2020 Cities/County Forecast Profiles (April 2000)

The San Diego/Tijuana region is the largest urban area adjacent to the U.S./Mexico border with nearly four million people, which is projected to grow to seven million people by 2020 (U.S./Mexico Border Activities; Caltrans District-11; March 1999). Tijuana had approximately a 991,592 population in 1995 and is forecasted to reach 3.3 million people by the year 2020 (INEGI, Baja California:

Tabulados Basicos del Censo de Poblacion y Vivienda 1995 (1996); SANDAG forecasts).

A method to ensure compatibility between land use and the statewide transportation system is the Caltrans Development Review process. Potential development projects are reviewed to determine what impacts they may have on State transportation facilities. Impacts can include level of service changes, right of way protection issues, operations and/or maintenance issues, or growth inducing/cumulative impacts. Development Review also analyzes proposed developments to ensure consistency with regional and state transportation planning documents.

A potential major development project within the SR-54 corridor that could increase congestion on area surface streets, intersections, and on SR-54 is "The Pointe" project. This 350 unit housing development is anticipated to generate approximately 9,600 daily vehicle trips.

### **Regional Growth Management Strategy**

The region-wide growth forecast, provided by SANDAG, indicates another one million people will be added to the county by 2020. This population could easily translate to more than 500,000 additional vehicles and over 400,000 new jobs. This additional population will further strain the housing stock, transportation system, public services, environment and economy. Recent developments in the evolving REGION2020 arena include the development of a definition of smart growth in the San Diego region. The June 2000 working draft on "REGION2020: Smart Growth Definition, Principles, and Designations" states that, "Smart growth, is a compact, efficient, and environmentally sensitive pattern of development that provides people with additional travel, housing, and employment choices by focusing future growth away from rural areas and closer to existing and planning job centers and public facilities".

SANDAG is working with the staffs and elected officials of the local jurisdictions to address issues related to smart growth implementation. The first step is for local governments to make specific commitments to support REGION2020 and implement SMART GROWTH principles.

### **2020 TRANSPORTATION CONCEPT**

The 2020 Transportation Concept includes State highway, transit service, system management and travel reduction, goods movement, International border, aviation and non-motorized components. The State highway component is listed in Table 6, while the other components are discussed in the Concept Rationale section. These components are examined in segment for traffic analysis and other purposes. The segmentation shown is for planning purposes only and is

subject to change pending further studies or project-related activities. The State highway component is comprised of the facility type and the number of lanes for 2020, the ADT for 2020, the peak hour Volume to Capacity (V/C) Ratio for 2020, the peak hour Operating Level of Service (LOS) for 2020, and the Transportation Concept LOS for 2020. The future traffic projections for SR-54 are based on the SANDAG 2020 Cities/Counties Forecast Smart Growth Preferred Plan (Fall 2000). These projections assume completion of the future regional transportation system. The 2020 traffic projections are subject to change based on periodic traffic forecasting model adjustments and ongoing supplemental transportation studies.

The 2020 peak hour Operating LOS includes all proposed State highway improvements.

The 2020 Transportation Concept LOS is based on the SANDAG Congestion Management Program (CMP). The CMP standard of LOS E' is the 2020 Transportation Concept LOS SR-54.

**TABLE 6**  
**2020 TRANSPORTATION CONCEPT**

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS*
1) SD 0.0-1.9	I-5 TO I-805	6F + 2HOV	120,100	0.77	C	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	6F + 2HOV	142,700	0.86	D	E
3) SD T5.0-7.7	Briarwood Road to East Jct SR-125	6F + 2HOV	139,500	0.85	D	E
4) SD 7.7-T11.0	East Jct. SR-125 to SR-94/Campo Road	4E**	28,000	0.61	C	E
5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	4C/6C**	37,000***	0.74	D	E

ADT = Average Daily Traffic

V/C = Volume to Capacity

LOS = Level of Service

2C, 4C, 6C = (2,4,6) Lane Conventional Facility

\* Concept LOS is based on the SANDAG Congestion Management Program (CMP) standard.

\*\* The San Diego Association of Governments (SANDAG) is expected to complete the Route 54 Corridor Study after the County of San Diego adopts an updated land use plan. The study will determine corridor location, facility type, and number of lanes.

\*\*\* Does not include projected ADT on any potential new alignment

NOTE: ADTs were derived from SANDAG's 2020 Cities/Counties Forecast Smart Growth Preferred Plan. Peak hour V/C Ratios and Peak Hour Operating LOS are only intended as a general planning guideline. Results may differ based on usage of other traffic analysis methodologies.

## CONCEPT RATIONALE

A multimodal approach is necessary in order to provide for the projected increased person-trips in the SR-54 corridor.

### Highway Component

The 2020 Transportation Concept for SR-54 from I-5 to I-805 is to add two HOV lanes to the existing six lane freeway. From I-805 to Briarwood Road, the Concept includes upgrading the four lane freeway and two HOV lanes to a six lane freeway and two HOV lanes. From Briarwood Road to the east junction with SR-125, the Concept is to construct a new six lane freeway with two HOV lanes. From the east junction of SR-125 to SR-94 the Concept is to construct either a four lane or six lane Expressway on new alignment. From SR-94 to near the El Cajon south city limits, the concept is for a four lane conventional highway with widening to six lanes between SR-94 and Brabham Street. Consideration should also be given to further widening to six lanes north of Brabham Street. Provisions should also be made at the I-5/SR-54 interchange and the SR-125/SR-54 interchange to accommodate potential future HOV connections.

SANDAG is expected to develop the SR-54 Corridor Study for the portion of SR-54 from SR-125 to the terminus of the route near the El Cajon south city limits. This study is expected to narrow down corridor location, alignment, facility type and number of lanes needed. The outcome of SANDAG's study may require modification of this highway component in the future.

### Transit Component

The MTDB Short-Range Transit Plan (November 2000) identifies transit and bus needs for the San Diego region. The plan has identified that bus service on routes 856 and 858 may need to be expanded within the next two years. The plan has also identified that this bus service will need to increase weekday frequency to every fifteen minutes within the next three years to accommodate greater demand.

In addition, MTDB undertook a two-year strategic planning process, called Transit Works, that culminated in the adoption of a *Transit First* strategy in October 2000. MTDB, NCTD, and SANDAG subsequently worked together to develop a strategy in which Transit First and Fast Forward would serve as the foundation for shaping the SANDAG Regional Transit Vision (RTV).

Based on the current RTV, Red Car Service (Corridor Express Service) is proposed for SR-54 from I-5 to I-805. Red Car services will operate in the existing trolley or light rail corridors and trolley-like service will be expanded into

other corridors. Initially, this expanded service will be operated with buses or flextrolleys either on existing or other exclusive rights-of-way.

Yellow Car Service (Regional Express Service) is proposed on SR-54 from I-805 to SR-125. To a large extent, these routes will travel on the freeway system, using High Occupancy Vehicle (HOV) or Managed Lanes and bypass facilities where required to avoid areas of high traffic congestion

Yellow Car services can be operated with buses or flextrolleys (“flextrolley”, or “trains on tires”) operated like buses with the look and feel of rail vehicles.

### **System Management and Travel Reduction Component**

Another aspect of the Concept for all segments is greater utilization of arterial street capacity in the corridor. Expansion and improvement of the existing arterial street system is necessary to enhance its effectiveness. Improvements to the arterial system can substantially increase mobility within the corridor and reduce peak period demands on the freeway. They can provide a route for short interregional trips where existing arterials are inadequate or not present, and act as an alternative route for some regional trips.

Capacity of existing arterials within the corridor is affected by physical inadequacies, access conflicts, numerous traffic signals, and general traffic congestion. Corridor capacity can be increased by realignment and/or widening, correcting physical inadequacies, minimizing side friction and improving traffic flow of arterials within the corridor. Improvements towards these ends include preferential signal treatment, limitation and separation of left-turn movements, limited driveway and other access controls, and HOV lanes for ridesharing and transit.

SANDAG has been coordinating the development of the *1999 Regional Arterial System (RAS) Project Priority List*, which includes unfunded/underfunded candidate projects that could compete for future discretionary transportation funding allocations. An additional study related to arterial street improvements is the *SANDAG Traffic Signal Optimization Program* (April 1994). In addition to the aforementioned Traffic Signal Optimization Program, air quality improvements will be achieved primarily by the implementation of TCMs. The goal of the *Transportation Control Measures for the Air Quality Plan* report developed by SANDAG in March, 1992 is to reduce traffic congestion and motor vehicle emissions in the San Diego air basin in order to meet the requirements of the state’s Congestion Management Act, the California Clean Air Act of 1988, and the federal Clean Air Act Amendment of 1990.

Currently, there are no ramp meters being planned along SR-54.



A system of electronic traffic sensors, changeable message signs, and closed-circuit television cameras can be installed district-wide to monitor traffic flow and respond to congestion in a variety of ways. There is currently a changeable message sign on SR-54 at postmile 3.527 near Woodman Avenue. Traffic Operations Strategies (TOPS) are currently being planned, including six closed-circuit televisions between I-805 SR-125. Seven Traffic Management Systems (TMS) loops exist between Reo Drive and Briarwood Road. Twenty more TMS loops are being planned along SR-54. Signal upgrades are also a part of the TOPS five-year plan list of projects.

An additional TSM measure in the 2020 Transportation Concept includes the provision of additional Park and Ride facilities in appropriate locations within the SR-54 corridor. The consultant-prepared *San Diego Regional Park and Ride Study* (March, 1994), which analyzed and evaluated several planned and potential Park and Ride lot locations throughout the San Diego Region, includes the SR-54 corridor. Potential Park and Ride lot locations are: SR-54/Reo Drive, SR-54/Briarwood Road., SR-54/Campo Road., Sweetwater Springs Boulevard./Avenida Bosques, and Jamacha Boulevard at Campo Rd.

### **Goods Movement Component**

Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, additional emphasis was placed on the movement of goods in an integrated transportation network. It is essential to identify critical elements within major goods movement corridors in order to develop effective strategies for managing, maintaining and improving transportation system connectivity. Goods movement planning incorporates analysis of impacts on noise, air quality, land use, congestion and safety. Goods movement issues have a significant economic impact on our regional economy. The movement of goods in San Diego involves the systems of rail, ports and shipping, trucking, and air cargo.

On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), authorizing highway, highway safety, transit and other surface transportation programs from 1998-2003. TEA-21 builds on the initiatives established in ISTEA. The Act adds programs that address traffic safety, economic competitiveness and international trade.

The portion of SR-54 from SR-94 to the El Cajon South city limits is designated as an STAA Terminal Access Route connecting to the National Network.

### **International Border Component**

With the implementation of the North American Free Trade Agreement (NAFTA) in 1992, increased numbers of freight movement have impacted the region's

transportation network. Within the last three years alone, NAFTA's export growth is estimated at \$34 billion and help support nearly 476,000 new jobs in California.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 was reauthorized until 2003 as the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). ISTEA requires studying the advisability of establishing a discretionary International border crossing program and the development of a multimodal assessment of existing and emerging international trade corridors within Canada, Mexico and the United States. The reauthorization has complemented initiatives from the original act and has improved in areas to address safety, economic competitiveness and international trade. A total of \$700 million for the reauthorization will be spent through the 2003 fiscal year on coordinated planning, design and construction of corridors of national significance, economic growth, and international and interregional trade.

### **Aviation Component**

The San Diego regions aviation system includes San Diego International Airport - Lindbergh Field, 11 public general aviation airports, 10 private general aviation airports (with restricted public access), four military air stations, and 32 heliports. None of these facilities are in the vicinity of the SR-54 corridor.

### **Nonmotorized Component**

Bicycle travel is allowable on the non-freeway portions of SR-54. The Non-Motorized Component includes continued utilization of the existing Regional Bikeway System, the Bus Bicycle Rack Program and the Bicycle Locker program at Park and Ride lots.

The Americans with Disabilities Act (ADA) of 1990 established a clear and comprehensive prohibition of discrimination on the basis of disability. Under Title II, Local and State governments with responsibility for public streets, roads, or walkways must provide curb ramps at existing pedestrian crosswalks. In new construction, curb ramps must be provided at any intersection having curbs or other barriers to entry from a street-level pedestrian walkway. ADA requires public transportation facilities accessible to persons with disabilities. ADA is a Federal mandate without designated funding, but allows for phase-in compliance. Prior to 1994, ADA accessibility on Caltrans facilities was phased in as facilities were altered or constructed.

Within the project limits, there are 46 intersections along SR-54 that have sidewalk facilities with 109 street corners not having curb ramps. These sidewalk facilities have raised curbs that limit accessibility for disabled pedestrians. The raised curbs are physical barriers that cause disabled pedestrians unusual hardship when crossing a street, road, driveway or crosswalk. Altering the raised

curbs by installing new curb ramps would remove the physical constraints, and would make the sidewalks accessible to the disabled pedestrians.

SANDAG is currently developing design guidelines to address pedestrian issues related to transportation.

## **Tourism Component**

The California Division of Tourism estimates that recreational activities and the travel industry generates \$55.2 billion dollars per year and sustains 700,000 jobs statewide, which makes California first in the nation for visitors and earnings. California drew over 250 million person trips in 1998, of which, San Diego received over 30 million person trips. Of the most attractive places to see in San Diego, Sea World in Mission Bay, Old Town, and Balboa Park are the major lures. The numbers for Sea World totaled over 3.7 million visitors, Old Town over 7.1 million visitors, and Balboa Park over 14 million visitors in 1998. The Gaslamp Quarter National Historic District in downtown San Diego also has its fair share of visitors along with the Del Mar Fairgrounds. In addition, many visitors to San Diego cross the international border to visit Tijuana, Mexico and other communities in Baja California.

## **AIR QUALITY**

SR-54 is located in the San Diego Air Basin. Progress has been made in the San Diego Air Basin in attaining federal and state air quality standards. Federal and state standards have been met for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide (CO). The approximate western two-thirds of Air Basin is federally designated as a maintenance area for CO. Federal standards are being met for inhalable particulates labeled as PM10. State standards for PM10 have not been met and the possible addition of a PM2.5 standard may change the Air Basin's federal status as it relates to inhalable particulates.

Currently, the San Diego Air Basin is classified as a "serious" ozone non-attainment area under both the state and federal Clean Air Acts. The non-attainment classification, based on the amount of pollutant above the one hour standard, determines the minimum state and federal control requirements and the federal attainment deadline for the San Diego Region. The current federal one-hour standard for ozone may soon be altered to an eight hour standard. If this occurs there should be no change in the Air Basin's ozone classification.

## **COMPARISON OF CONCEPTS**

Table 7 is comprised of a segment by segment comparison between the 1991 Route Concept Report and this current updated Transportation Concept Report.

**TABLE 7  
COMPARISON OF CONCEPTS**

1991 Transportation Concept for 2010			2000 Transportation Concept for 2020 (Series 9 2020 Forecast)		
Segment	Discription	# Lanes/ Facility Type	Segment	Discription	# Lanes/ Facility Type
1	I-5 TO I-805	6F	1	I-5 TO I-805	6F + 2HOV
2	I-805 TO SR-125	6F+2HOV	2	I-805 TO Briarwood Road	6F+2HOV
3	SR-125 to SR-94	6E	3	Briarwood Road to East Jct SR-125	6F+2HOV
4	SR-94 to Chase Avenue	6C	4	East Jct. SR-125 to SR-94/Campo Road	4E
5	Chase Avenue to Washington Avenue	4C	5	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	4C/6C
6	Washington Avenue To I-8	4C		relinquished	

2C, 4C, 6C = (2, 4, 6) Lane Conventional Freeway

## 2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table 8 shows improvements to SR-54 that are part of the 2020 Transportation Concept. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed facility improvements.

**TABLE 8  
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS**

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concep LOS
1) SD 0.0 – 1.9	I-5 to I-805	Add 2HOV	0.77	C	E
2) SD 1.9- T5.0	I-805 TO Briarwood Road	Upgrade from 4F + 2HOV to 6F + 2HOV	0.86	D	E
3) SD T5.0-7.7	Briarwood Road to East Jct SR-125	Construct 6F + 2HOV	0.85	D	E
4) SD 7.7-T11.0	East Jct. SR-125 to SR-94/Campo Road	Construct 4E	0.61	C	E

5) SD T11.0 – T14.2	SR-94/Campo Road to Grove Road (El Cajon south City Limit)	Widen from 4C to 6C (SR-94 to Brabham) and/or highway on new alignment*	0.74	D	E
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\* Improvement description subject to refinements pending results of SANDAG Route 54 Corridor Study.

## POST 2020 ULTIMATE TRANSPORTATION CORRIDOR

The post-2020 Ultimate Transportation Corridor (UTC) describes the long-term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Documents, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures.

The UTC proposes the number of lanes, and the facility type for SR-54. The UTC number of lanes and facility type for SR-54, particularly between I-805 and SR-125, will be reevaluated in the near future pending release of the SANDAG 2030 Regional Transportation Plan and new traffic forecasting numbers.

The outcome of the future SANDAG SR-54 Corridor Study may have an impact on the ultimate facility. Because transportation planning is a dynamic process, the UTC is subject to change based on future transportation studies.

## LIST OF SYSTEM PLANNING ACRONYMS

ADT	Average Daily Traffic
APCD	Air Pollution Control District
CAA	Clean Air Act
CMP	Congestion Management Program
CTC	California Transportation Commission
DU	Dwelling Unit
EA	Environmental Assessment
EPA	Environmental Protection Agency
F&E	Freeway and Expressway System
FHWA	Federal Highway Administration
IBTC	International Border Trade Corridor
ICES	Intermodal Corridors of Economic Significance
IRRS	Interregional Route System
ISC	Indirect Source Control
ISTEA	Intermodal Surface Transportation Efficiency Act
ITIP	Interregional Transportation Improvement Program

ITMS	Integrated Traffic Management System
LOS	Level of Service
MSL	Maintenance Service Level
MTDB	Metropolitan Transit Development Board
NAAQS	National Ambient Air Quality Standards
NAFTA	North American Free Trade Agreement
NHS	National Highway System
PHV	Peak Hour Volume
PM	Post Mile
POE	Port of Entry
RAQS	Regional Air Quality Strategy
RAS	Regional Arterial System
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
R/W	Right of Way
SANDAG	San Diego Association of Governments
SCAG	Southern California Associations of Governments
SD&IV	San Diego and Imperial Valley Railroad
SHOPP	State Highway Operation and Protection Plan
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Transportation Control Measure
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TSM	Transportation Systems Management
V/C	Demand Volume to Capacity Ratio
VMT	Vehicles Miles Traveled

## LEVEL OF SERVICE (LOS) DEFINITIONS

LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS definitions can generally be categorized as follows:

<u>LOS</u>	<u>V/C</u>	<u>Congestion/Delay</u>	<u>Traffic Description</u>
<i>(Used for two and four lane freeways and expressways)</i>			
"A"	<.34	None	Free flow.
"B"	0.35-0.52	None	Free to stable flow, light to moderate volumes.
"C"	0.53-0.69	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.70-0.92	Minimal to substantial	Approaches unstable flow,

			heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
<i>(Used for six lane freeways and expressways)</i>			
"A"	< .39	None	Free flow
"B"	0.40-0.59	None	Free to stable flow, light to moderate volumes
"C"	0.60-0.74	None to Minimal	Stable flow, moderate volumes freedom to maneuver noticeably restricted
"D"	0.75-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor

*(Used for freeways and expressways)*

"F0"	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion very long queues.
"F2"	1.36-1.46	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe 3+ hours of delay	Gridlock

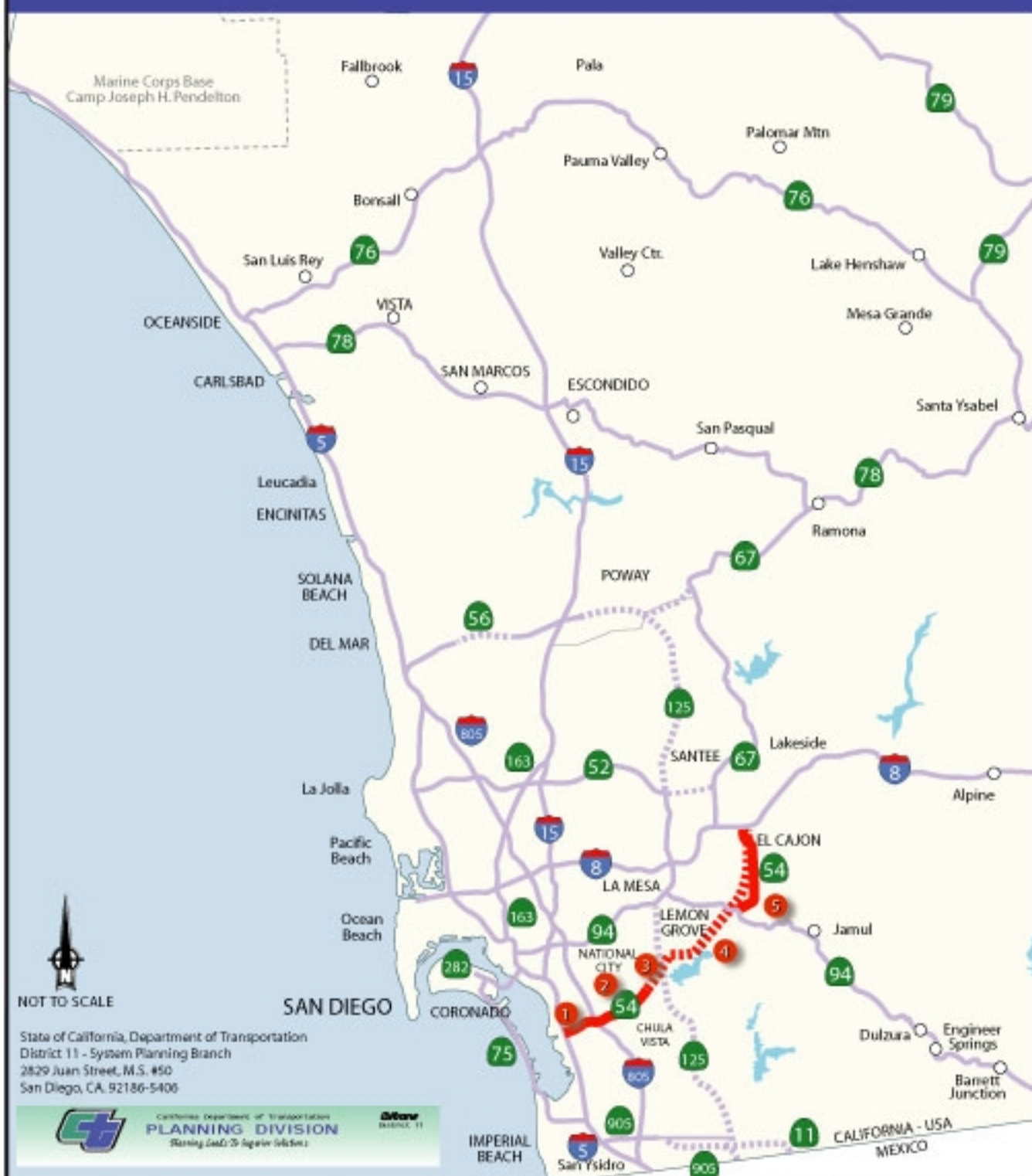
<b><u>LOS</u></b>	<b><u>D/C</u></b>	<b><u>Congestion/Delay</u></b>	<b><u>Traffic Description</u></b>
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*(Used for conventional highways)*

"B"	<0.46	None	Free to stable flow, light to moderate volumes.
"C"	0.46-0.65	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.66-0.85	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.86-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F"	>1.00	Considerable	Forced or breakdown flow Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.



# SR-54 TRANSPORTATION CONCEPT REPORT FACILITY IMPROVEMENTS



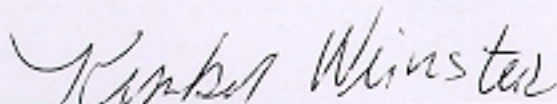
Segment/Location	Improvement Description	Peak Hour Operating LOS	Concept LOS
I-5 to I-805	Add 2 HOV lanes	C	E
I-805 to Brianwood Road	Upgrade from 4F + 2HOV To 6F + 2HOV	D	E
Brianwood Road to East Jct. SR-125	Construct 6F + 2HOV	D	E
East Jct. SR-125 to SR-94/Campo Road	Construct 4E	C	E
SR-94/Campo Road to Grove Road (El Cajon south City Limit)	(SR-94 to Brabham) and/or highway on new alignment	D	E

\* pending results of SANDAG Route 54 Corridor Study

STATE ROUTE 54

I approve this Transportation Concept Report as the guide for development of SR-54 over the next 20 years.

Submitted By:




Kimberly Weinstein, Chief  
System Planning Branch

3-18-02

Date

Recommended By:

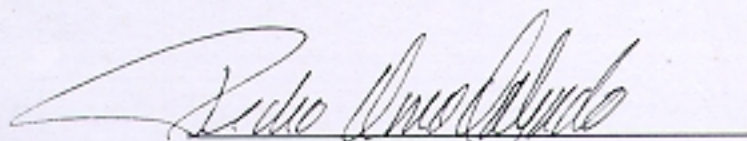


Gene Pound  
Deputy District Director  
Planning

5/25/02

Date

Approved By:



Pedro Orso-Delgado  
District Director

5/30/02

Date